

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): A deposition target source for ion deposition of a material onto a substrate and made of two parts of the same deposition material, both parts of which are exposed to an ion beam in a vacuum chamber when in use, one part comprising an inner insert having at least one mating surface and having an erodable surface area substantially corresponding to the target region eroded by the ion beam; the other part comprising a separate outer region substantially outside the eroded region and defining a central opening to receive the inner insert with the outer region substantially surrounding the inner insert the outer region and having a surface detachably mating with the mating surface of the inner insert; and an interlocking interface formed by the mating surfaces of the inner insert and the outer region, both to form a cohesive deposition target source from the inner insert and the outer region and to enable detachment of the inner insert for replacement after ion deposition.

Claim 2 (original): A target source according to Claim 1, wherein the interlocking interface comprises a mechanical interlocking lip structure to prevent contaminants from passing ~~between the mating surfaces of the inner insert and outer region.~~

Claim 3 (previously amended): A target source according to Claim 2, wherein the mechanical interlocking lip structure comprises a first annular lip formed at the central opening of the outer region, and an annular mating lip formed on the inner insert.

Claim 4 (currently amended): A deposition target source for ion deposition of a material onto a substrate and made of two parts of the same deposition material, one part comprising an inner insert having at least one mating surface; the other part comprising a separate outer region defining a central opening to receive the inner insert with the outer region substantially

surrounding the inner insert, the outer region having a surface detachably mating with the mating surface of the inner insert; and an interlocking interface formed by the mating surfaces of the inner insert and the outer region, both to form the a cohesive deposition target source from the inner insert and the outer region and to enable detachment of the inner insert for replacement after ion deposition, the interlocking interface comprising a mechanical interlocking lip structure to prevent contaminants from passing between the mating surfaces of the inner insert and outer region with a first annular lip formed at the central opening of the outer region, and an annular mating lip formed on the inner insert ~~A target source according to Claim 3~~; wherein one of the lips defines an annual groove and the other of the lips defines an annular ridge mating with the groove.

Claim 5 (withdrawn)

Claim 6 (original): A target source according to Claim 1, wherein the inner insert and the outer region each define a rear surface, and further comprising a backing plate affixed to the rear surfaces of the inner insert and outer region.

Claim 7 (previously amended): A target source according to Claim 6, and further comprising a bonding layer of solder to affix the backing plate.

Claim 8 (currently amended): A method of reusing an eroded deposition target source used for ion deposition of a material from the target source, comprising the steps of:

(a) forming the target source in two separate parts made of the same deposition material both parts of which are exposed to an ion beam in a vacuum chamber when in use, one part comprising an insert, from which the material is to be used for deposition and having an erodable surface area substantially corresponding to the target region eroded by the ion beam, and an outer part substantially outside the eroded region and surrounding the insert by an interlocking interface to prevent contaminants from passing between the parts;

(b) affixing both parts to a backing plate to form a cohesive assembly for insertion into an ion beam deposition machine for deposition of material substantially from the insert onto a substrate, thereby eroding the insert; and

(c) removing from the ion beam deposition machine at least the insert after deposition and replacing it in the ion beam deposition machine with a new uneroded insert for further deposition using material from the new uneroded insert.

Claim 9 (previously amended): The method according to Claim 8, and comprising the step of removing the entire assembly after deposition, detaching at least the eroded insert from the backing plate, and replacing the eroded insert by affixing a new uneroded insert to the backing plate and reusing the outer part and the new uneroded insert for further deposition in the ion beam deposition machine.

Claim 10 (withdrawn)